the astrogram

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September 12, 1974

National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

New Deputy Director named to Life Sciences

Dr. Joseph C. Sharp has been appointed Deputy Director of Ames' Life Sciences Directorate by Center Director, Dr. Hans Mark. The appointment became effective August 26.

Dr. Sharp succeeds Dr. David L. Winter, who was recently named NASA's Director for Life Sciences.

The new Deputy Director comes from Walter Reed Army Institute of Research in Washington, D.C. Dr. Sharp worked at Reed for some 14 years and served as the research institute's Deputy Director of the Neuropsychiatry Division since August of 1970.

Dr. Sharp related to the "Astrogram" that accepting the top management position at Ames was a difficult decision. He noted that, "While Walter Reed is tops in its field and is an internationally renown research institute, the dynamism and competence at Ames is clearly unique. The directorate has an eclectic outlook in its research approach and capabilities."

He continued, "From a personal point of view, I basically felt I was due for a change, that is, professionally speaking. One can remain in a job too long and that was something I wanted to avoid."

Dr. Sharp has worked in the biomedical research field for many years. The work he did at Reed in the biomedical stress field related closely to the work he'll be directing at Ames, though he admits that he has had little contact with the space aspects.

Dr. Sharp pointed out that he basically sees the work of the Ames Life Sciences falling into three major areas. There is the search for signs of extraterrestrial life (as planned with the 1975 Viking Mission); the aviation or man-machine integration and interface side (communications, etc.); and the defining of Space Shuttle passenger selection criteria studies. The latter two areas are the ones in which Dr. Sharp will concentrate his efforts.

(Continued on Page 2)

Astronaut resigns

Dr. Edward Gibson, science pilot on the 84-day long Skylab-4 mission, recently announced he will leave the NASA astronaut corps on November 30.

Gibson, 37, will join The Aerospace Corporation of Los Angeles as a senior staff scientist and will specialize in the interpretation of solar data gathered during the 171 days of manned operation of the Skylab program.

Gibson has been a scientist–astronaut since 1965 and was the science pilot on the third and final manned visit to the Skylab space station (November 16, 1973 to February 8, 1974).

He was the crewman primarily responsible for the 338 hours of operation of the Apollo Telescope Mount which made extensive observation of solar processes.

In his new job with The Aerospace Corporation, Dr. Gibson will concentrate his studies on solar activity and how it developed, the underlying causes and its effects on the earth.

Dr. Gibson said his decision to leave "was a very difficult one to make." He said: "I have greatly enjoyed and have felt a tremendous challenge in my work with NASA and feel my experience in the Skylab was the most challenging of my life.

"I am leaving only because of the tremendous amount of solar data we have accumulated in Skylab and I feel compelled to roll up my sleeves and make the best of the data."

"Lighter-than-air" workshop

A week-long workshop to explore the technical and economic feasibility of lighter-than-air vehicles for a variety of uses, will be held in Monterey from September 9 to 13. NASA engineers and technicians will participate.

The Flight Transportation Laboratory of the Massachusetts Institute of Technology is hosting the workshop. Sponsors include NASA, the Navy, the Department of Transportation, and the Federal Aviation Administration. The chairman is Alfred C. Mascy of Ames' System Studies Division.

Some 40 technical papers, including 12 from other countries, covering design and construction, potential markets, new concepts and mission applications, economic viability, and operational aspects of lighter-than-air vehicles will be presented.

Purpose of the workshop is to assemble existing information about lighter-than-air technology and to identify potential research efforts and costs involved in answering some of the unknowns in this field.

Meetings will be held at the Naval Post Graduate School and the Del Monte Hyatt House, Monterey.

Ruth Bates Harris assumes new post at NASA

Mrs. Ruth Bates Harris rejoined NASA as Deputy Assistant Administrator of Public Affairs for Community and Human Relations effective Monday, August 19.

From October 1971 to October 1973 Mrs. Harris served at NASA, first as Director of Equal Employment Opportunity and then as Deputy Assistant Administrator, Office of Equal Opportunity Programs.

NASA Administrator Dr. James C. Fletcher, in announcing the appointment, said: "We sincerely welcome Mrs. Harris back to NASA and we look for significant achievements in her new duties.

In her new position as deputy to John P. Donnelly, Assistant Administrator for Public Affairs, Mrs. Harris will be a major point of contact between the space agency and state and local governments and community groups across the United States.

Her work will involve detailing the importance of NASA's missions and their contributions to concerned community groups, including minorities, women, senior citizens and the handicapped.

In addition, she will help develop NASA's role in improving the quality of engineering and science education at colleges and universities which have a significant or predominant minority or female enrollment.

At NASA, Mrs. Harris' activities will require her to work closely with the Educational Program Division, Office of Facilities, Office of University Affairs, Office of Personnel and the Office of Equal Opportunity Programs.

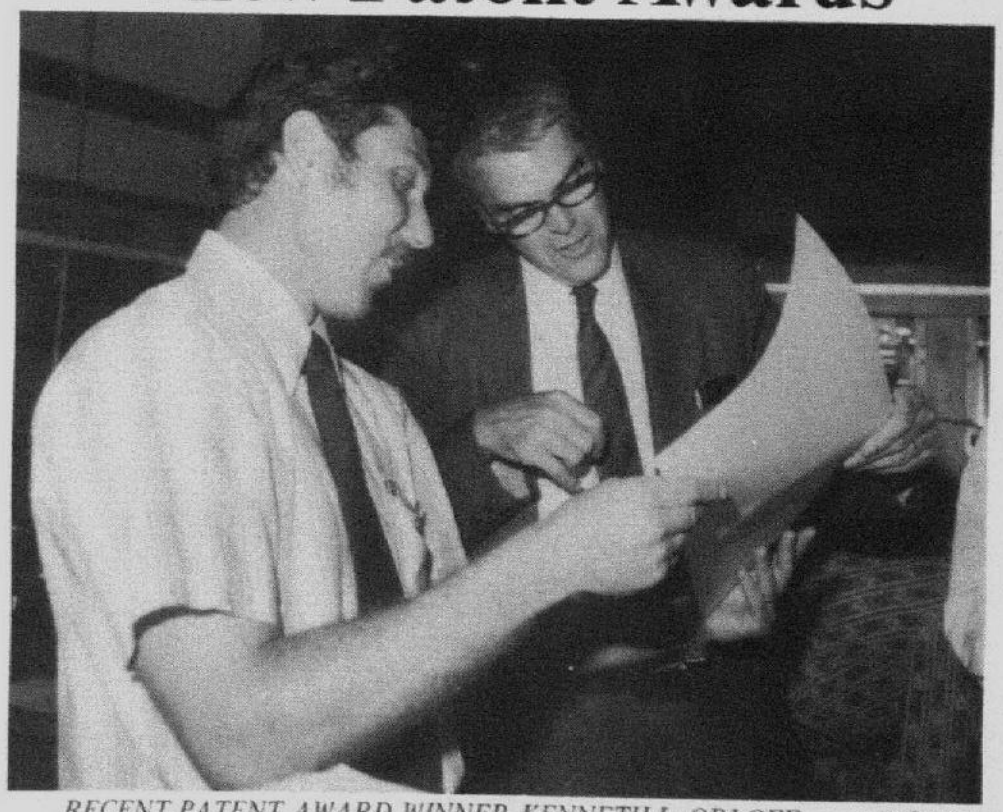
Mrs. Harris has an extensive background in human relations and equal employment opportunity positions.

From September 1969 to October 1971 she established and was director of the Human Relations Department of the Montgomery County Maryland Public Schools.

Before that she served for nine years in the government of the District of Columbia as Equal Employment Opportunity Officer, Assistant Director, Deputy Director and Executive Director of the D.C. Human Relations Commission.

She received her Bachelor of Science Degree in Business Administration from Florida A. & M. University, Tallahassee, and her Master of Business Administration from New York University.

4 new Patent Awards



RECENT PATENT AWARD WINNER KENNETH L. ORLOFF . . . and Center Director Dr. Hans Mark discuss Orloff's invention "Dual Wavelength Scanning Doppler Velocimeter" at a ceremony August 14. Other patent inventors of the doppler velocimeter were Wm. D. Gunter and George R. Grant, both of Ames. Robert D. Lee also received a check for his invention "Ultrasonic Biomedical Measuring & Recording Apparatus."

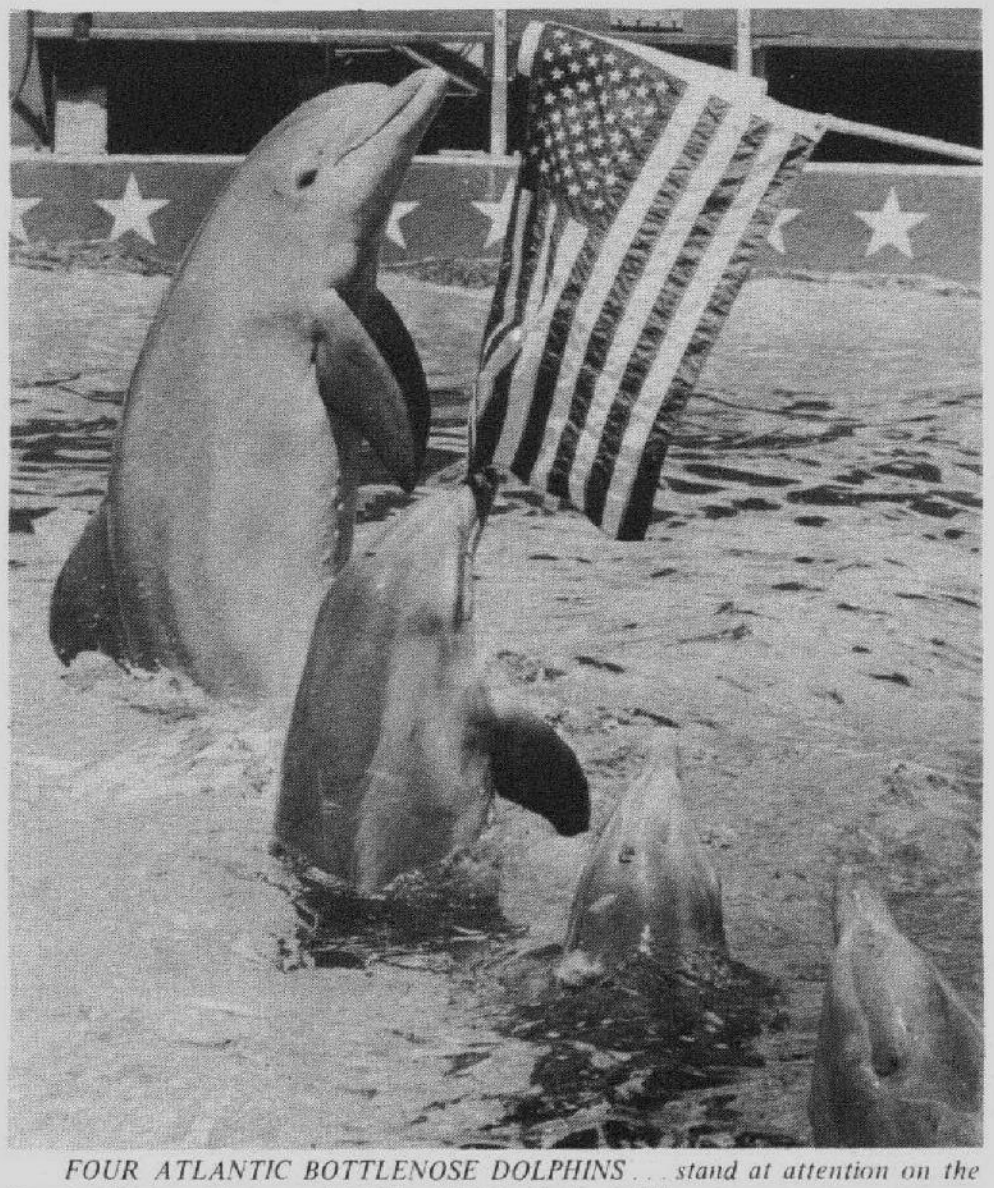
Early NASA employee retires

Roy C. Nelson, an early day NASA (National Advisory Committee on Aeronautics) of Ames, is leaving the Center on disability retirement after working on the night shift steadily for the past 28 years. The night shift includes the hours between 3:30 p.m. and 12 midnight.

Nelson is a model maker in the Model and Instrument Machining Branch. He has served on the Ames Emergency Crew for 10 years. He was originally hired at the Center on October 1 1940.

Nelson's fellow employees recently had a large sheet cake for the retirement. Pictured above are (from left to right) Paul Wagner, Roy Nelson, John Habermeyer and Odel Cox. Everyone wishes Roy many happy and restful years of retirement.

A respectful salute to the flag



FOUR ATLANTIC BOTTLENOSE DOLPHINS . . . stand at attention on the fourth of July at Marineworld/Africa USA in Redwood City.

Photo by Jack Stewart

Vacationing -- historical marker found

The month of August found two Ames employees, John Habermeyer, Pat Malone, and their families vacationing together. Their travels, some 4,000 miles, took them first to the World's Fair in Spokane, then to Glacier National Park and on into Canada – Banff, Lake Louise, the Columbian Ice Fields and Jasper National Park.

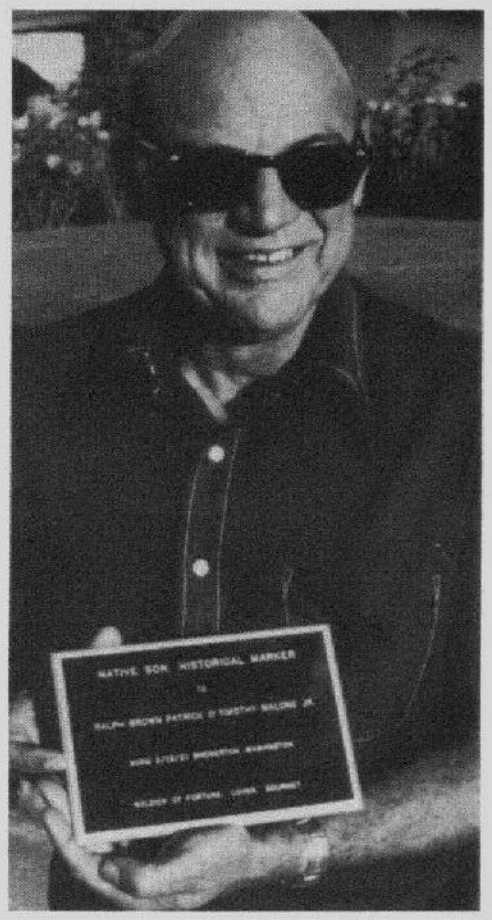
On the way home both families agreed to stop over in Bremerton, Washington, to let Pat revisit for the first time the city where he was born. As they drove up and stopped in front of the old home site, Pat must have been soberly thinking, "Ah-h-h, the nostalgia of it all. And the family. Just think. I was born right here on this property some years ago and . . ." but Pat's train of thought was interrupted because as he was walking up the path which leads to the old homestead his eye caught a glimpse of a plaque-like object embedded in the grass. And to his amazement it read:

Native Son Historical Marker
Ralph Brown Patrick
O'Timothy Malone, Jr.
Born February 12, 1921
Soldier of Fortune, Lover,
Gourmet

Now who (as if we readers didn't know) had the foresight ("and good taste," Pat adds) to plant such a plaque in recognition of this Son of Bremerton? Whoever it was, it should be noted that the author understands that the last line isn't necessarily in correct order! And everyone wonders what the correct order should be, Pat?

Epilogue

Though the majority of the Habermeyer-Malone trip was full of fun, a serious note or two occurred. While waiting in line to see the U.S. Pavilion at the World's Fair on an extremely hot day, two people standing close to the Ames personnel suddenly collapsed from heat



exhaustion. John revived each one with his expert knowledge of first aid. Though late for the performance, John was personally escorted to his seat and later noted, "Knowledge of first aid can always help someone at some unexpected time . . . even when on vacation."

New Deputy Director

(Continued from Page 1)

Dr. Sharp has published numerous times and is a member of various committees. He is quite active in the American National Standards Institute's (ANSI) committee on "Radiation and Man," which is attempting to establish standards necessary for safety factors in the exposure of mankind to non-ionizing radiation. He is also involved with the Inter-Agency Working Group of the Electromagnetic Radiation Management Advisory Committee to the President.

Dr. Sharp, born in Salt Lake City, Utah, received his BS, MS, and PhD from the University of Utah. After spending many years in Washington, D.C., he is thoroughly enjoying California. He and his family live in Los Altos. An avid participant in water sports, Dr. Sharp especially enjoys sailing, swimming, and scuba diving.

Device displays heart rate

A digital computing cardiotachometer, first used by NASA physicians to monitor instantaneously the pulse rates of astronauts performing underwater training activities, is being used in non-space oriented medical applications.

The device was developed originally by engineers at Marshall Space Flight Center to monitor on a beat-to-beat basis the heart rates of astronauts undergoing training in the center's neutral buoyancy simulator (NBS), an underwater training laboratory used to simulate the weightless conditions encountered in space.

The device, which provides a numerical display of a subject's pulse rate 0.3 seconds after detecting his second heart beat, was used at Veteran's Administration Hospital and University Hospital in Birmingham, Ala., for approximately a year. It is now being used in routine physical examinations given to personnel at Marshall's employee medical facility.

Designed to operate in conjunction with a standard electrocardiographic unit, the device employs an electronic digital system to use the time between two consecutive heart beats to calculate a patient's pulse rate in beats per minute.

The cardiotachometer, which is about the size of an ordinary shoe box, weighs approximately 2.2 kilograms (five pounds).

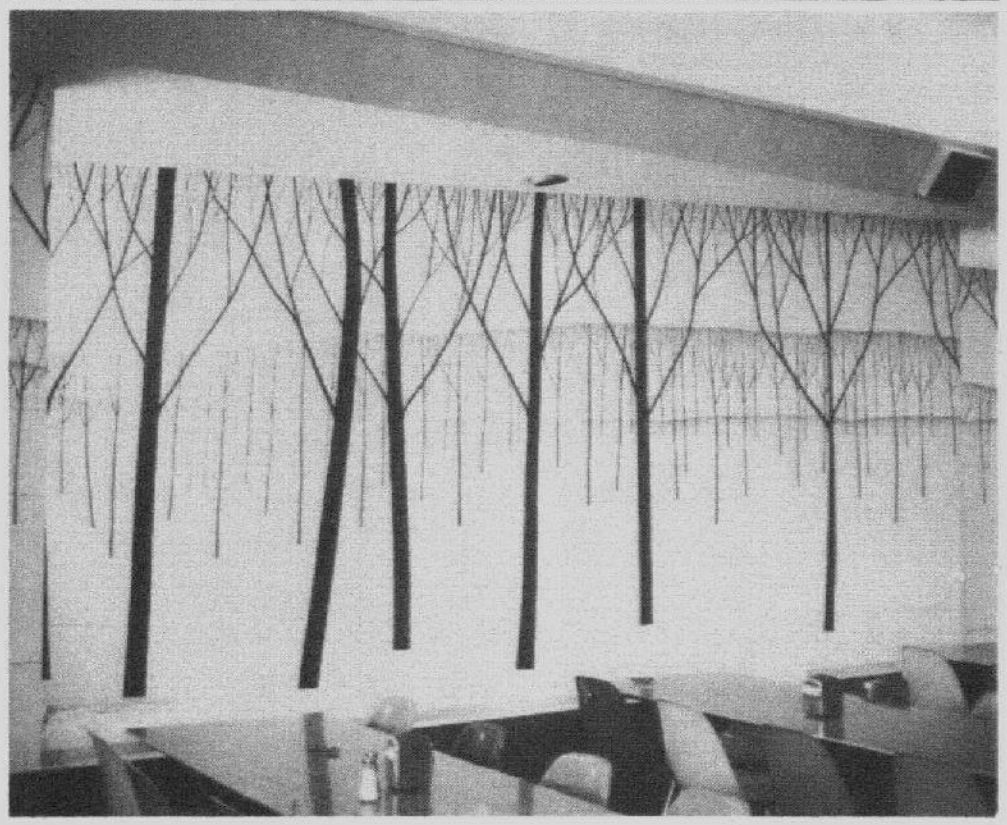
A "new look" for the Ames cafeteria

Those of you who have not eaten lunch in the Cafeteria during the past 2-1/2 weeks are in for a big surprise. The Ames Cafeteria has changed. The walls now don scenes of blue sky and clouds, trees in the snow, and a view of the Moon. Tables have been rearranged and may accommodate anywhere from 4 to 8 individuals for lunch. The "mess hall" type effect has vanished and a relaxed "restaurant" atmosphere has emerged. For many, it represents a great improvement; others prefer the previous set-up.

The new interior decorations were designed and mounted by Grove Products, Inc., under contract with the NASA/Ames Exchange Council. The Council is responsible for the changes that have been made. The Council is interested in receiving comments from Ames employees and contractors concerning the "new look" and the new seating arrangements. If you wish, please write your comments below, detach and place in Suggestion Boxes in the Cafeteria.

The NASA/Ames Exchange Council recently negotiated a new Contra contract with Stewart-Hill Food Service for the Cafeteria, making it possible for us to share in the profits earned.

comments:



Food service questionnaire results

The NASA Ames Exchange conducted a survey as part of a continuing effort to provide good food service. Here are the results of that questionnaire:

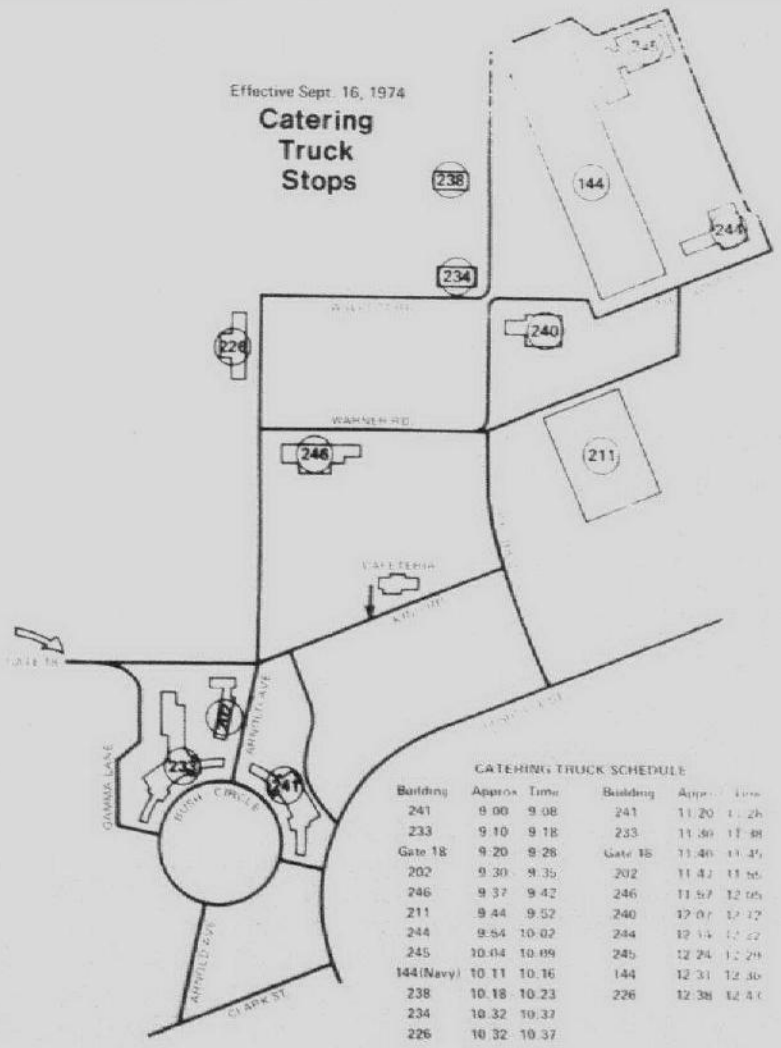
	Very Good	Good	Fair	Poor	Very Poor	Total
Temperature of food	63□	165■	78□	20□	2□	328
Variety of food	74□	163■	73□	14□	2□	326
Quality of Salads	52□	132■	73□	19□	6□	282
Quality of desserts	41□	116■	67□	20□	2□	246
Quality of main dish	55□	136■	71□	13□	5□	280
Quality of coffee	42□	99■	50□	24□	11□	226
Cleanliness of facilities	122□	131■	44□	10□	9□	316
Consistency of portion size	64□	140■	79□	12□	13□	308
Efficiency of cashiers	171■	125□	32□	3□	3□	334
Efficiency of serving personnel	117□	130■	53□	10□	8□	318
Overall food service	64□	178■	65□	14□	5□	326

The Exchange also conducted a survey of the truck vending food service and here are its results:

Temperature of food	14□	36■	23□	2□	2□	77
Variety of food	16□	33■	23□	10□	5□	87
Quality of salads	7□	28■	20□	8□	3□	66
Quality of desserts	10□	23■	21□	9□	4□	67
Quality of main dish	13□	27■	19□	6□	4□	69
Quality of coffee	12□	23■	10□	10□	1□	55
Cleanliness of facilities	24□	48■	10□	3□	1□	86
Consistency of portion size	19□	39■	19□	5□	3□	82
Efficiency of cashiers	43■	36□	4□	0□	2□	85
Efficiency of serving personnel	42■	36□	4□	2□	3□	87
Overall food service	24□	35■	15□	4□	6□	84
Consistency of schedules	18□	26■	18□	10□	12□	84

Effective Sept. 16, 1974

Catering Truck Stops



CATERING TRUCK SCHEDULE

Building	Approx. Time		Building	Approx. Time	
241	9:00	9:08	241	11:20	11:28
233	9:10	9:18	233	11:30	11:38
Gate 18	9:20	9:28	Gate 18	11:40	11:48
202	9:30	9:35	202	11:42	11:55
246	9:37	9:42	246	11:57	12:05
211	9:44	9:52	240	12:07	12:12
244	9:54	10:02	244	12:14	12:22
245	10:04	10:09	245	12:24	12:29
144(Navy)	10:11	10:16	144	12:31	12:36
238	10:18	10:23	226	12:38	12:43
234	10:32	10:37			
226	10:32	10:37			

Courses to be televised at Ames for Autumn quarter 1974 over the Stanford instructional television network

AERO AND ASTRO

AA	200A	Engineering Analysis of Flight Vehicles
AA	297	Seminar in Flight Control and Guidance

APPLIED MECHANICS

AM	221	Dynamics
AM	250	Mathematical Methods in Applied Mechanics

CHEMICAL ENGINEERING

CHE	205	Transport in Reacting Systems

COMPUTER SCIENCE

CS	140A	Systems Programming
CS	155	Concrete Mathematics
CS	246	Operating Systems

ELECTRICAL ENGINEERING

EE	181	Introduction to Computer Organization, Machine and Assembly Languages
EE	201A	Seminar. Discussion of Special Topics of current interest in EE
EE	202	Medical Electronics
EE	211	Principles of Pulse and Timing Circuits
EE	216	Principles and Models of Semiconductor Devices
EE	238	Electric and Magnetic Properties of Solids
EE	243	Electromagnetic Theory I
EE	261	The Fourier Transform and Its Applications
EE	264	Applied Linear Algebra
EE	266	Introduction to Network Synthesis
EE	274	The Computer as a Laboratory Instrument
EE	278	Introduction to Statistical Signal Processing
EE	292C	Seminar on Digital Filtering
EE	305	Seminar on Electronics in Medicine
EE	322A	Basic Quantum Mechanics
EE	360	Seminar on the Theory of Systems
EE	363	Introduction to Linear System Theory
EE	375	Information Systems Seminar
EE	380	Seminar on Digital Systems
EE	381	Switching Theory and Logic Design

ENGINEERING–ECONOMIC SYSTEMS

EES	201A	Introductory System Analysis

INDUSTRIAL ENGINEERING

IE	208	Man-Machine System
IE	229	Engineering Economy

MATERIALS SCIENCE

MATS	205	Strength and Microstructure
MATS	238	Fracture of Solids

MECHANICAL ENGINEERING

ME	137	Air Pollution
ME	138	Noise Pollution
ME	230A	Heat Transfer

OPERATIONS RESEARCH

OR	240	Linear Programming

STATISTICS

STAT	116E	Theory of Probability for Engineering Students

ENGINEERING

ENGR 105	Control System Analysis and Design
ENGR 291	Management of Research Institutions
ENGR 298	Seminar in Fluid Mechanics
EPRI	Energy Seminar

Contact the Training Branch for further information.

Two new offers

The Scientific and Technical Information Office is now offering two new information tools.

Commencing with the August 23, 1974 issue, *STAR (Scientific & Technical Aerospace Reports)* will carry announcements of new and ongoing research projects. This new section to be found in the front of *STAR*, will contain 1) abstracts of research efforts conducted or sponsored by other U. S. Government agencies or private institutions, which are deemed of interest to NASA; and 2) announcements of research projects supported by NASA. About 250 projects will appear in each issue of *STAR*.

The second tool is a computerized file of NASA's research and development contracts and grants. This file features in-depth subject indexing and accessibility on NASA/RECON. Information concerning these R&D contracts/grants may be accessed by subject, performing institution, principal investigator, contract or grant number, NASA technical monitor, cognizant NASA installation, or sponsoring NASA office. There is also a display indicating whether technical reports have been or will be generated.

The data include 3,000 contracts and grants commencing with calendar year 1972 for NASA Headquarters, and covers grants and contracts awarded by NASA Centers since late 1973.

WANT ADS

Transportation

73 Yamaha 175 Enduro. Fixed up for dirt, many extras. Original street parts included. $500 or make offer. Call 252-4753 after 5 p.m.

66 Chrysler T/C wagon, 3 seater, top rack. P.S., P.B., A.T., air. Recent tires, brake shoes and new drums, 383 eng, 13–16 mpg, $600. Call 736-5280.

66 Porsche. 44,000 orig. mi., orig. owner, leather interior, chrome wheels, wood stearing wheel, 5spd., new brakes, radials on back, $3600 or best offer. 967-8809.

1 Pickup Tire Carrier, new. $14. 967-8809

Tent trailer, hard top Wheelcamper. $1295.00. 379-2385

73 Honda-500, 2000 miles, crash bars, back rest, windshield. $1395.00. 379-2385

Housing

FOR RENT: South Tahoe Cabin; sleeps 8, w/w carpet, T.V., fireplace, telephone, 2 bath. Call Sinnott – 225-8043.

FOR SALE – 2-1/2 wooded acres near ski areas. Highway 88 – 4000 ft. elevation. Electricity, underground telephone, cleared site for cabin. Total price $8950 or assume $4000 loan at 7% plus balance. Call evenings – 968-4155 or 984-6952.

Miscellaneous

Saddle, Stubben Seigfried, 18" with fittings, breast collar and pad. $250. 379-2395

Olympia-50 electric typewriter: dual ribbon. New $500, sell $275. 379-2385

TV (2), black & white, Sears 1972, 13" and 19", $30. Moving to Europe. Call 965-6653 or 967-8713.

TV - Sylvania, b&w portable, 19" diagonal, VHF & UHF antennas, good picture, $50. Call 259-6069.

Borzoi (Russian Wolfhound) puppy bitch, 3 months old, all white, outstanding bloodlines. Excellent potential for showing. Roger Craig – UN 7-0220.

19" G.E. Color TV with stand. China closet, walnut with glass front. Call Bob Barrow – 266-6998.

MOVING SALE – Thick gold 12' x 15' rug and pad, $25; Gray woven rug, 9' x 12', $10; 10 gal. fish tank and pump, $6; Weight lifting equipment, $4. S. Post – 328-8537.

S. F. Opera tickets, pair of fifth row orchestra seats on aisle for Manon (Sept. 21) and Luisa Miller (Nov. 16) $17/ticket. Evenings 941-7183

FOR SALE: Registered Quarter Horse, Mare, 9 yrs., papers, 1974 Gymkhana State Champ, good disposition, all shots. $1400 or make offer. Call 262-6084 after 5 p.m. for appointment.

Needed: Mature babysitter (high school or college girl) for two children, ages 11 and 8. Mon. thru Fri. 2:45 to 5:15 p.m. Area of Bascom and Stokes in San Jose. 289-8789 after 5:00.

FOR SALE – 1 Western Saddle, $80 or make offer; 1 2-burner Coleman stove, $12; 4 U.S. Army mummy sleeping bags, $4 each; 1 9'x12' wall tent, heavy duty U.S. Army surplus officer's tent, $35 or make offer. Call 252-4753 after 4:30.

Guest speaker for Helicopter meeting

Jan M. Drees, Chief of Flight Technology at Bell Helicopter Company, will present an illustrated talk entitled "1000 Years of Rotating Wing Development" on Thursday, September 19, at Mac's Tea Room in Los Altos. The presentation is sponsored by the San Francisco Bay Area Chapter of the American Helicopter Society, Inc.

Mr. Drees will trace the history of rotating wings from the earliest windmill to the invention of blade twist; and 400 year old airfoils to modern helicopters and future wind generators.

All interested persons are welcome to join. No host cocktails begin at 6:30 p.m., and dinner is at 7:30 p.m. Cost of the dinner is $6 for Sole, or $8 for Prime Rib. For reservations, contact Jim McCroskey at extension 5835 or the U.S. Army Air Mobility R&D Lab at Ames (MS 215-1). Advance notice is required for menu selection.

Chorus auditions

The San Jose Chorus will hold auditions for new singers on Friday, Sept. 13th, at 1771 Grace Ave., San Jose, from 7:00 to 9:00 p.m. Requirements for membership in the Chorus are 1) the ability to read a vocal part, 2) an acceptable singing voice, and 3) the enthusiasm to work toward a finished performance. Rehearsals are held every Monday evening at the A. Lincoln High School Cafeteria, beginning Monday, Sept. 16th, at 7:30. For further information contact Chorus Headquarters, Mrs. J. Dale Goodnight – 377-3843.

Thank you

Thank you is an overused word, but I can't think of a better one to show my appreciation to everyone for such a large turnout and great luncheon. Especially to Al Barron who put it all together. My family also sends their thanks and appreciation to a great bunch of people.

Enes and Clarence Bocage

the astrogram

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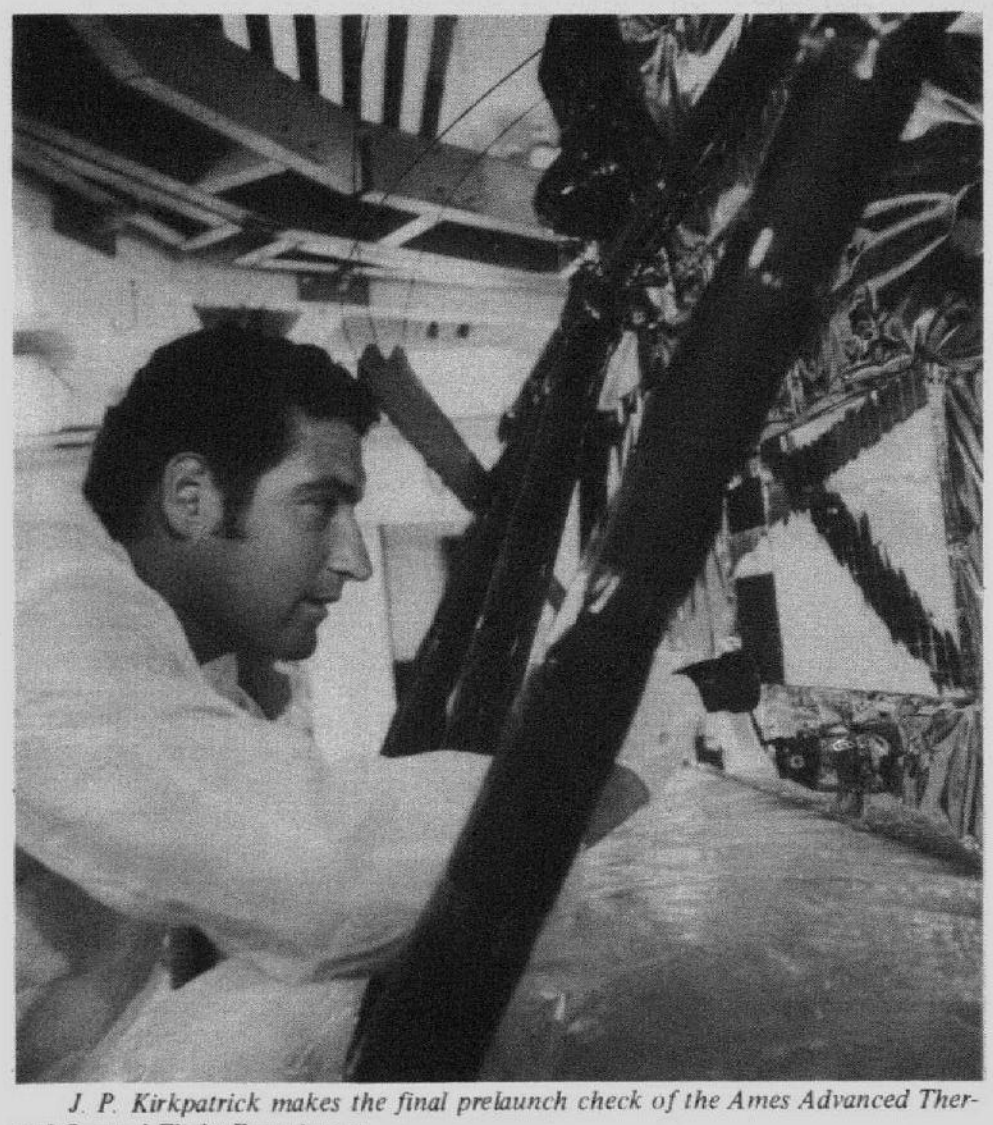
National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

ATS 6 carries Ames experiment

Flying in synchronous orbit approximately 23,300 miles above the earth's surface, the Applications Technology Satellite ATS-6 carries an Ames heat-pipe experiment, the Advanced Thermal Control Flight Experiment (ATFE). This is the second such experiment to be developed at Ames and placed in orbit. The first, the Ames Heat-Pipe Experiment (AHPE), was launched aboard the Orbiting Astronomical Observatory OAO-3 in August, 1972. The AHPE not only confirmed the predicted performance of a variable conductance heat pipe in the space environment, but serves to control the temperature of the spacecraft's on-board data-processing computer. J. P. Kirkpatrick, now acting chief of the Systems Development Branch, Flight Project Development Division, was principal investigator, originator, and developer of both experiments.

The ATFE, launched on May 30, is really three experiments in one. Its objectives are (1) to evaluate in space the performance of an active feedback-controlled, variable conductance heat pipe; a one-way heat pipe or "thermal diode"; and a phase-change thermal accumulator, and (2) to demonstrate the effectiveness of these recently developed thermal control devices in stabilizing the temperature of spacecraft components which undergo large changes in power dissipation and/or thermal environment.

The ATS-6 is an ideal test bed for the ATFE. In near-equatorial, synchronous orbit, it is stationary over one point on the earth's surface and consequently experiences an earth-type day of 12 hours of sunshine and 12 hours of darkness. The heat input to a solar absorber on the experiment ranges from zero to full solar intensity and back to zero during the sunlit period. During the rest of the day the absorber and radiator of the experiment are exposed to the absolute zero temperature of space.



J. P. Kirkpatrick makes the final prelaunch check of the Ames Advanced Thermal Control Flight Experiment.

The thermal diode conveys heat from the solar absorber to one face of a box containing the phase-change material (PCM). This face of the box simulates the mounting shelf for a piece of

(Continued on Page 2)

Equal opportunities specialist appointed

There are many qualified minorities who could benefit this Center, and Annette Laboy is out to find them. Annette Laboy is the new 5'2", black-haired, brown-eyed Equal Opportunities Specialist in the Equal Opportunities Programs Office. She works days with Willie L. White Jr., Chief of the staff office, and moonlights as the ordinary everyday college student. Annette is completing her senior year at California State University at San Jose, and will graduate within a year. She is majoring in business administration.

Annette came from the Navy office at Lockheed where she assisted in various Affirmative Action Programs. Before that she was here at Ames working on the Biosatellite Program in 1970. This is her first week here, so she isn't as yet involved specifically in the program. The majority of her time is spent getting to know everyone involved in the Equal

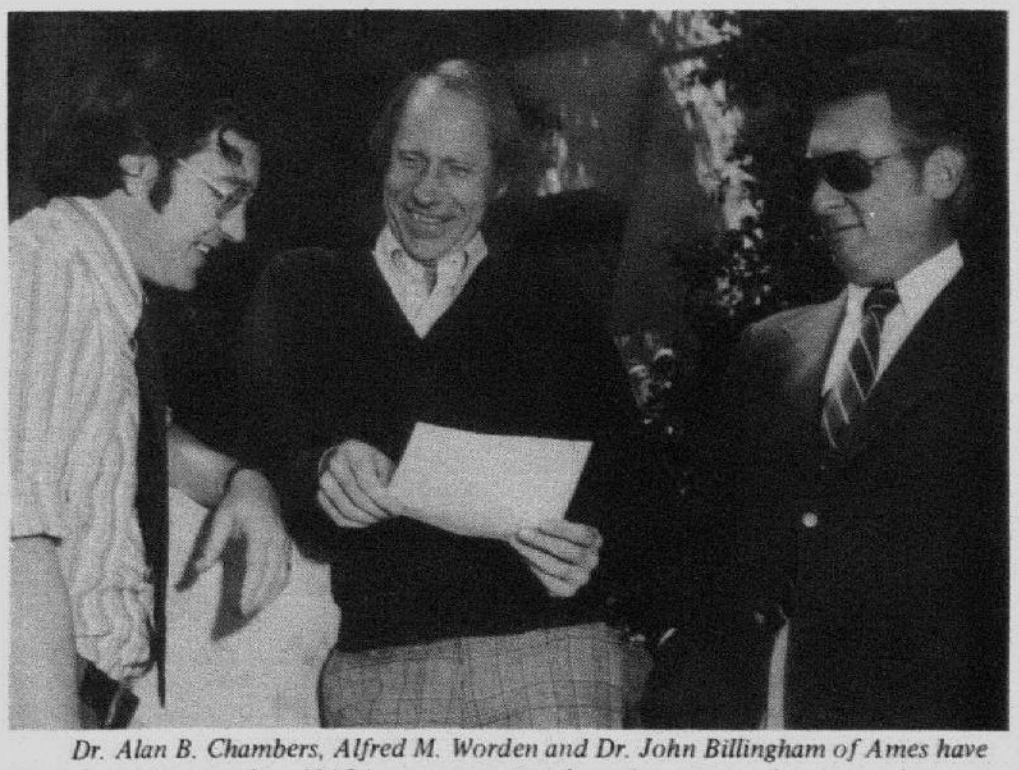
(Continued on Page 4)

3 Center scientists join future space endeavors study

The role of space exploration and exploitation to the year 2000 and beyond is being studied by a select NASA group that includes three scientists from Ames Research Center.

Alfred M. Worden, Dr. Alan B. Chambers, and Dr. John Billingham are among 19 experts named by NASA Administrator James C. Fletcher to examine all possible space endeavors which might be desirable and practical, including potential operational and commercial uses of space. Worden is Chief of the Ames Systems Studies Division and a NASA astronaut, Dr. Chambers is Technical Assistant to Center Director Dr. Hans Mark, and Dr. Billingham is Chief of the Biotechnology Division.

The study will inventory potential space projects, identify goals, and look at economic benefits in future space activities. The study, entitled "Outlook for Space," was formed in June and is now consolidating inputs of ideas about how a future national space program should be structured. It is expected to be finalized in June, 1975. The new project was introduced to the U.S. Senate by Senator Frank E. Moss of Utah, Chairman of the Senate Committee on Aeronautical and Space Sciences, on August 8. He remarked that "NASA has assembled a study group consisting of some of their most creative people to help identify some of the possible future programs. The emphasis will be on imaginative new ideas."



Dr. Alan B. Chambers, Alfred M. Worden and Dr. John Billingham of Ames have been named to a select NASA committee to chart the course of space exploration through the year 2000.

Blood donor honor roll

We congratulate the following Ames employees who have donated at least 1 gallon of blood on the Mobile. The Blood Mobile comes around approximately every 90 days and we would like to encourage everyone to give generously.

David Goorvitch	1 gal. 2 pt.	William D. Angwin	5 gal.
Richard K. Greif	1 gal. 3 pt.	Georgia Benson	1 gal. 1 pt.
Ralph K. Hallett, Jr.	3 gal. 5 pt.	Robert T. Bell	1 gal. 3 pt.
Shirley A. Hayes	2 gal. 5 pt.	Jack J. Brownson	2 gal. 1 pt.
James E. Johnston	2 gal. 1 pt.	Charles S. Copeland	4 gal. 5 pt.
Charles C. Kubokawa	2 gal. 6 pt.	Lloyd D. Corliss	1 gal.
Frank A. Lazzeroni	5 gal. 5 pt.	William J. Gilwee	1 gal. 3 pt.
Conrad W. McCloskey	1 gal. 4 pt.	Robert A. Gordon	1 gal.
John E. Maher	1 gal. 3 pt.	George R. Grant	3 gal. 1 pt.
Oliver L. Mathison	1 gal. 5 pt.	Michael J. Green	1 gal. 2 pt.
Richard Mattfield	1 gal. 4 pt.	Charles L. Greiser	2 gal.
Yutaka Matsumoto	1 gal.	Frank M. Hamaker	6 gal. 7 pt.
Ramsey K. Melugin	1 gal. 1 pt.	Edward C. Harman	2 gal.
Delbert J. Norman	1 gal. 2 pt.	Bertram S. Harper	1 gal.
Stanley R. Redings	2 gal. 3 pt.	Rhonda C. Heinze	1 gal. 2 pt.
Walter A. Reinhardt	2 gal. 2 pt.	R. Gloria Hermilo	2 gal. 6 pt.
James F. Remington	3 gal.	Kathryn K. Hofer	2 gal. 2 pt.
Eugene Rosen	1 gal. 1 pt.	Vard B. Holland	1 gal. 3 pt.
Ronald C. Smith	1 gal. 2 pt.	Nozomu Iwasaki	1 gal. 1 pt.
Lewis W. Stone	1 gal. 6 pt.	Robert W. Jackson	1 gal. 4 pt.
Philip L. Thompson II	1 gal. 7 pt.	Victor W. Katvala	1 gal. 3 pt.
Stuart L. Treon	6 gal. 3 pt.	John P. Kirkpatrick	1 gal.
William H. Vanderbeek	1 gal. 1 pt.	Earl D. Knechtel	4 gal.
Grace M. Webster	2 gal. 1 pt.	Peter Lesak	1 gal. 2 pt.
John W. Weyers	3 gal.	Lionel L. Levy	3 gal. 2 pt.
Henry T. Woodward	1 gal. 7 pt.	Alfred N. Llamas	2 gal.
Fritz H. Woeller	1 gal. 4 pt.	Norman M. McFadden	6 gal. 3 pt.
Donald N. Christianson	1 gal. 1 pt.	Daniel L. Mossolani	1 gal.
Ronald J. Hruby	2 gal. 3 pt.	Howard G. Nelson	1 gal.
J. Lloyd Jones	6 gal. 1 pt.	Paul H. Nelson	1 gal. 1 pt.
Fred R. Lemos	3 gal. 2 pt.	Warren H. Nelson	6 gal.
Edward O. Moran	2 gal. 2 pt.	Eugene R. Pucine	1 gal. 6 pt.
Byron W. Nelson	5 gal. 7 pt.	Philip D. Quattrone	1 gal. 5 pt.
Gerald B. O'Connell	1 gal. 7 pt.	Paul R. Radich	2 gal. 4 pt.
Russell G. Robinson	3 gal. 5 pt.	L. Stewart Rolls	4 gal. 3 pt.
Edward J. Rozewicz	1 gal. 3 pt.	Perry A. Rowe	9 gal. 1 pt.
Russell F. Shipp	1 gal. 5 pt.	John Rzucidlo	1 gal.
Dale I. Shute	7 gal. 5 pt.	Howard F. Savage	2 gal. 1 pt.
John E. Boyle	4 gal. 4 pt.	George L. Shillinger	1 gal.
Alan L. Campbell	1 gal.	Joseph L. Steger	1 gal 1 pt.
John Givens	2 gal. 5 pt.	Henry T. Sumsion	3 gal. 4 pt.
A. Vernon Gnos	6 gal. 5 pt.	Ralph E. Sutton	2 gal. 2 pt.
Bruce E. Kelley	1 gal. 7 pt.	Mark H. Water	1 gal.
Helen A. Kelton	3 gal. 5 pt.	Phyllis Strawbridge	1 gal. 7 pt.
Joseph A. Lipkos	2 gal. 1 pt.	Cecil W. Wachsman	1 gal. 5 pt.
Richard C. Luke	1 gal.	Jerry P. Barrack	1 gal. 2 pt.
Cecil S. Melmin	2 gal. 3 pt.	Hubert M. Drake	1 gal. 5 pt.
Engelbert H. Olesch	1 gal.	John E. Leveen	6 gal. 5 pt.
Velvin R. Watson	2 gal.	Edward H. Collins	3 gal. 3 pt.
Laurie V. Webster	3 gal. 6 pt.	Walter L. Starr	4 gal. 4 pt.
John P. Devine	1 gal. 3 pt.	Robert H. Davidson	1 gal. 5 pt.
Thomas M. Edwards	1 gal. 2 pt.	Paul Callahan	2 gal. 1 pt.
John J. Gawienowski	6 gal. 1 pt.	John R. Viegas	1 gal.
Randel N. Hichens	2 gal. 1 pt.	Guy V. Ferry	2 gal. 3 pt.
William P. Peterson	1 gal. 7 pt.	Barbara F. Busch	1 gal.
Harry D. Shade	1 gal. 3 pt.	Richard F. Claeys	3 gal. 4 pt.
Walter L. Starr	4 gal. 3 pt.	Roy M. Wakefield	1 gal. 4 pt.

Gary Hill and Karen Blaha speak at Ames Tech Library

The Library, Bldg. 202, has completed purchase of a powerful and vital reference tool, the Royal Aeronautical Society's Engineering Sciences Data Unit publication "Engineering Sciences Data". The following series are now available in the library: Aeronautical (TL/545/E45); Chemical Engineering (TP/155/E45); and Mechanical Engineering (TJ/145/E45).

To introduce the series to potential users Gary Hill, Aeronautical Systems Branch, and Karen Blaha, Acquisitions Librarian, will discuss the series with the library staff and any other interested individuals, Thursday morning, October 3, 1974, at 9 a.m. The informal seminar will be held at the south end of the reference room in the library, Bldg. 202, first floor. Mr. Hill will describe what types of information an engineer or scientist can gain from using the series and how they are incorporated into his daily work. Mrs. Blaha will describe the arrangement of the three series and suggest methods of retrieving relevant data.

ATS 6 Ames experiment (Continued from Page 1)

temperature-controlled electronic equipment. The feedback-controlled heat pipe (FCHP) conveys heat from the opposite face of the box to the space radiator. The PCM – in this case a paraffin – stabilizes the box temperature at approximately 28° C while it is melting or freezing. Further stabilization is afforded by the FCHP: a sensor on the temperature-controlled face of the box acts through an electronic system to increase the thermal conductance of the FCHP when the face temperature rises, and to decrease the conductance when the temperature falls. Thus, the FCHP removes heat from the box at a rate which depends on the temperature-control requirement.

In the daylight portion of the ATFE's operating cycle, heat reaching the PCM box first melts the PCM; then, when the box temperature starts to rise, the FCHP "opens up" and conveys the heat to the radiator. At nightfall the PCM holds the box temperature constant for a time by surrendering heat as it freezes. At the same time the solar absorber is cooling off, and when its temperature drops below the box temperature the thermal diode "shuts off" and prevents any appreciable escape of heat in the reverse direction. Simultaneously the conductance of the FCHP drops to its lowest value, thus minimizing the escape of heat in the forward direction. The box temperature is held substantially constant until all of the PCM has frozen, and it then drops at a rate that depends on the thermal capacity of the system and on the rate of heat leakage from the insulated experiment. With a sufficient supply of PCM it is theoretically possible to maintain a practically constant box temperature throughout the 24-hour cycle. Although communication difficulties have prevented the receipt of complete flight data up to this time, enough data have been received to indicate that the experiment is performing substantially as predicted.

The flight plan is for the satellite to remain at a longitude of 94° west of Greenwich for approximately a year; then to be moved to a point over the Indian Ocean, at longitude 35° east, for a second year; and then to be moved back to longitude 108° west for the third and final year. Opportunity for the accumulation of ATFE flight data will be afforded during a large part of this extended period of operation. Flight experience with the feedback-controlled heat pipe, thermal diode, and phase-change material will qualify these temperature-control devices and materials for numerous applications on NASA, Department of Defense, and commercial satellites. These flight-proven technologies will also provide solutions of many terrestrial thermal control problems.

The AFTE was sponsored at NASA Headquarters by the Materials and Structures Division of OAST. As principal investigator, Mr. Kirkpatrick was assisted by P. J. Brennan, co-investigator and formerly project engineer with Dynatherm Corporation, Cockeysville, Maryland. Dynatherm was responsible for the detailed design and construction of the experiment. The thermal diode was furnished as GFE under a separate contract with Grumman Aerospace Corporation. L. Washington, of the Flight Projects Branch, assisted in project administration and in the conduct of qualification and acceptance tests.

Student aid receives special award

Toni Davis (pictured second from the left), a student in the Ames Summer Youth Employment Program, did an outstanding job during this past summer and members from the two branches where she worked were willing to back her up! (Left to right) Dave Fisher, Toby Gonzales and Terry Norwicki all pitched in and bought her a $25 U.S. Savings Bond as an award for her fine performance.

In a letter to Miss Davis, Mr. Gonzales stated, "You have shown a high degree of dedication and competence, and were a vital member of our work force. The adaptation you made to the technical and complex structure of the overall office work and procedures is well worth mentioning. Your ability to learn the terminology and format of the vast number of tasks to be performed, and your retention of the material was excellent. It was a pleasure to have had an outstanding, contributing employee such as you in our organization. Thank you Toni!"

Conference on remotely piloted vehicles held at Ames

More than 50 research engineers and technical personnel from the Defense Department, Army, Navy, Air Force and NASA attended a two day briefing and review of ongoing research efforts covering Remotely Piloted Vehicles (RPVs), August 7–8, at Ames.

RPVs have been described as small, low cost, unmanned aircraft, controlled from the ground and used for surveillance, target acquisition-designation and electronic warfare in the military environment. In civil applications, RPVs could be used for research, mapping, searching, communication relay or transportation.

Conference attendees were welcomed by Loren G. Bright, Director of Ames' Research Support group, who spoke in behalf of Dr. Hans Mark, Director of Ames Research Center who was out of the city. The speaker covered briefly NASA's interest in the development of RPVs. Later in the program, NASA's specific effort in this field was presented by Thomas J. Gregory, chief of Ames' Advanced Vehicle Concepts Branch.

Paul F. Yaggy, Director of the Army Air Mobility R&D Laboratory, host agency for the meeting, reviewed the Laboratory's interest and participation in RPV activities. Lt. Col. Davies R. Powers, RPV Project Manager, Army Aviation Systems Command, St. Louis, Mo., spoke on past and current research programs with RPVs. Various Army aircraft models were shown and their capabilities were described as well as the problems encountered. The conference also included briefings on the status of current RPV programs in the Navy and Air Force.

Major participants who took part in the RPV meeting included representatives from NASA, Defense Department, the Army, Navy and Air Force are: (back row, left to right) Commander Robert O. Conroy, Naval Air Systems Command; Kenneth Anderson, Wright Patterson Air Force Base; Thomas J. Gregory, Chief, Advanced Vehicle Concepts Branch, ARC; (front row, left to right) Charles A. Thomas, Naval Air Systems Command; Lt. Col. Davies R. Powers, RPV Project Manager, Army Aviation Systems Command; Kenneth Perko, Office of Secretary of Defense.

Safety, first, last and always

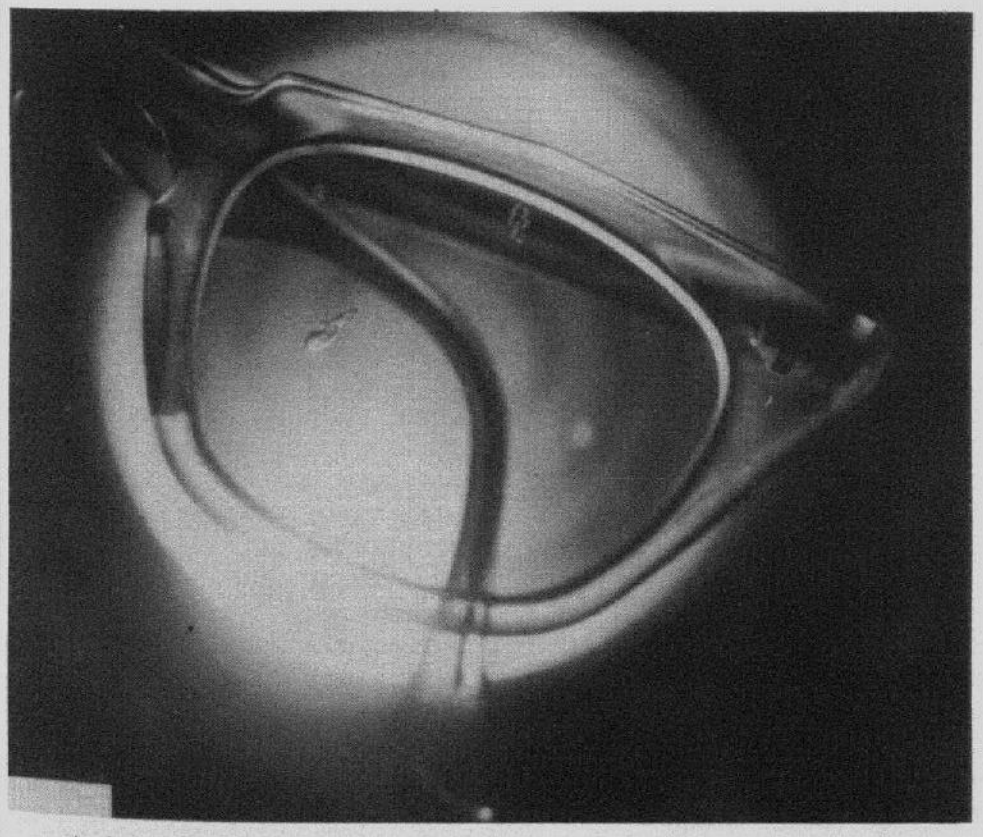
John G. Habermeyer, Chief of the Safety Office, tells the Astrogram readers of just one more case of safety precautions meaning the difference between the use of an eye and blindness.

The scene is that of Mr. Roy Narimatsu's home. Mr. Narimatsu, an engineer employed here, was welding equipment on his farm. He removed his safety helmet and replaced it with a pair of safety glasses. Covering his face with his gloved hand, he began chipping welding slag off to inspect the weld.

After finishing removing the slag, he noticed, as those of us who wear glasses will, that there was something on the lens. Upon inspection of the glasses, he found that the substance on the lens was a piece of hot slag, that, had he not been wearing glasses would have pierced the pupil of his eye. In other words, because he wore safety glasses he still has the use of both his eyes.

Mr. Habermeyer has a few words of advice for all our readers. He says, "Our office would like to stress the importance of wearing safety glasses even at home. No one can compensate you for the loss of your eyes nor buy you a new pair."

He also would like anyone who knows of or has had a similar experience to notify him of it. The Wise Owl Club of America welcomes as members anyone who takes all appropriate precautions and saves their eyes from damage.



A close up of the piece of slag imbedded in the right lens of Roy Narimatsu's safety glasses. These glasses saved him from irrepairable eye damage.

Laguna Seca golf tournament

Fifty-eight members and guests of the Ames Golf Club turned out for a beautiful day at Laguna Seca in Monterey, Saturday, September 7. At 8:30 it was a bit gloomy, but the pro promised us all double our money back if the sun didn't shine all day. He was right. By tee off time it was bright and sunny and stayed that way all day. For some, the weather was the only nice thing that happened; for others, it was a great day all around. A little different approach was taken on the prizes. Various combinations of bottles of Inglenook Gamay Beaujolais and Titleist golf balls were given for the three flights and for the closest to the pin on the 8th hole. Also, there was an example of an accurate prediction when the tournament Chairman arranged for a split bottle of wine for high gross and then won it heads down (that included 20 strokes and 6 golf balls on the 15th). The real winners were the following:

First Flight

1st	Jack Lee
2nd	Tom Almojuela
3rd	Ruben Ramos
4th	Mike Orozco

Second Flight

1st	Claudia Eddy
2nd	Clark White
3rd	Bruce Kelley
4th	Earl Menefee

Third Flight

1st	Rose Oyama
2nd	B. Dalignon
3rd	B. Gray
4th	Tom Polek

Jim Martin picked off the closest to the pin prize on the 8th. Earl Menefee was a two-time winner since he also clobbered Bert Nevotti in their match. The tournament Chairman was Fred DeMuth and he was helped considerably by Bob Eddy and Elmer Hampel.

'74 Life Science program

Four American scientists have been selected for NASA's 1974 Life Scientist Program. They are Dr. David J. Anderson, Kresge Hearing Research Institute, University of Michigan, Ann Arbor, Mich.; Dr. Joseph Bragin, California State University at Los Angeles; Dr. John Oro, University of Houston and Dr. Alfred R. Potvin, University of Texas, Arlington, Tex.

Each scientist will spend approximately one year at a NASA center conducting special studies in life sciences related to space exploration under the new space agency program established to stimulate such effort.

Bragin, Oro and Potvin will work at Ames. Bragin will study spectroscopy and photochemistry of ammonium and hydrogen sulfides. Oro will conduct research in the field of chemical evolution, and Potvin will conduct studies associated with vestibular research.

Anderson will work at the Johnson Space Center, Houston, on new and improved vestibular response measurement techniques.

The scientists will be scheduled for their stays at the NASA centers as soon as formal agreements with the respective universities are completed under provisions of the Intergovernmental Personnel Act (IPA) of 1970.

The Life Scientist Program was recommended to NASA by the National Academy of Sciences to increase participation in space and aeronautics-related research by the scientific community.

ATTENTION

PROSPECTIVE VOTERS

A deputy registrar of the League of Women Voters of Los Altos-Mt. View will be at the Ames Cafeteria to register voters on October 4, 1974, from 11:30 a.m. to 1:00 p.m.

Specialist appointed (Continued from Page 1)

Opportunities Program and how they will relate to her job.

Annette will be our Federal Women's Program coordinator, working closely with the Women's Advisory Group. She will be involved with minority recruiting; assisting our recruiting officers with outside contacts; colleges and community service organizations, and just letting them know that job assistance is here. She is also here to help those at Ames needing career development and other counseling. Ms. Laboy herself is Puerto Rican, and if she's an example of the qualified minority, we hope that everyone she finds is as well-qualified as she is.

Annette was a student at the Catholic University in Puerto Rico, worked in community affairs, was a member of the Club Interamericana and worked part-time at an insurance company.

So if you see this friendly dark-haired beauty, give her a friendly "Hi" and let her know how welcome she is.

Ames industrial softball team

The 1974 Ames Industrial Fast Pitch Softball Team includes (front row, left to right): Jim Myers, Bob Randle, Larry Olson, Paul Soderman, Dave Ackard; (back row, left to right): Mike Green, Bruce Ganzler, Bob Bell, Bill Laurie, Don Christianson. Not pictured: George Alger, Bob Corbett, Don Johnson.

All Ames softball league

The Fighting Pumas are back, after two years of being just another softball team. The Pumas became champs again in 1974 by beating the TGD softball team in the final game of the championship series by a score of 17 to 5.

Team members (top row, left to right) are: D. L. DeVincenzi, D. B. Sinnott, A. J. Wilhelm, B. J. Tyson, K. C. White, M. Smith, R. C. Hedlund, T. N. Almojuela; (bottom row, left to right) K. A. Souza, S. R. Kanally, F. Moore, C. H. Paulk, R. D. Showman, T. M. Carson, and V. C. Gonsalves now shown.

WANT ADS

Transportation

FOR SALE: '65 Olds Vista Cruiser, one owner, $475, 265-9549 evenings.

'64 RAMBLER CLASSIC,' 4 door, unusually good condition, PS, air, wide bucket seats, recent tires, $500. Call 948-0733.

FOR SALE: '63 Pontiac 2 door coupe, new tires, good mechanical condition, $150. Brooks, 735-9029.

FOR SALE: '71 Jensen Interceptor 3, only 8000 miles, showroom cont., bronze with black top, all leather interior, air. Asking $7,500, bought new in 1972 for $15,000. Contact Dr. Ken Elges, P.O. Box 3517, Incline Village, Nev. 89450, phone (702) 831-1747.

Housing

Vacation Rental, Cabin, Lake Tahoe, sleeps 10, near casinos and beaches. 274-4285

1 Year Lease: New 2 bedroom, 2 bath luxury condominium in San Carlos Hills. View, fireplace, 3 pools, tennis courts, recreation center. Adults, no pets. $350 per month plus utilities. Available Oct. 12. Days: 965-5968, Eves: 591-2003.

FOR SALE: 966 Tyner Way, Incline Village, Nevada. 3 bedrooms, 2 baths on 1/2 acre view lot. 1400 sq.ft., fully carpeted, has fireplace. Approx. $51,000 owing on property including bond. Asking $68,000, includes beach & boat launching privileges. Call Bjorn Aasen after 5 p.m., (408) 249-3549.

Miscellaneous

Saddle – Steuben Seigfried, 18", with fittings, breast collar and riding pad, $250. 379-2385

FOR SALE: Two forced air furnaces, one is 80,000 BTU General Electric, the other is 120,000 BTU American Standard. Both used about 20 months. Each $40. Call Moody, 736-5393.

Wanted to Purchase. TV UHF converter and upright freezer in good condition. 257-0583

Projectors. 1973 Bell and Howell Model 456 autoload. Super 8 and 8 mm compatible, $75. Also Argus 500 projector 8 mm standard, $25. Both projectors like new. Call 494-0980 after 5 p.m.

Baby short-haired Guinea Pigs, $1 each. Full size girls bicycle, $10. 245-2881

Ski Dec. to April. Join our ski group for housing. Two memberships available. Call David Raithel for more information at 739-3858.

Slide Projector – Anscomatic 680, remote controls, 7 circular trays (Sawyer), extra bulb, top consumer report rating, excellent condition, all for $50. 941-2784

Baby Furniture – Stroll-o-chair set (tan), with extra chair, $75. (Will consider splitting set up) 941-2784

I am interested in participating in a carpool. My address is 2230 Latham St., Mt. View. My working hours are 8 – 4:30 and my phone number is 968-2241 (home), 965-5455 (work).

Speakers Bureau

Marcelline Smith (Institute for Advanced Computation) was the morning keynote speaker for the California Division Forum of the National Secretaries Association, held in Oakland on September 14. Her presentation was entitled "Information from Space." The main tool of secretaries is information, Marcie told the group, and she reviewed how NASA uses information from space.

Lt. Col. Alfred Worden (Chief, Systems Studies Division) addressed two groups in Santa Barbara. The Daughters of the American Revolution held their Bicentennial Meeting on September 14, and he also addressed the Channel City Club at their meeting on September 13.

Lawrence Giver (Astrophysics Branch) was the guest lecturer for the Department of Chemistry and Physics of the Naval Postgraduate School at Monterey, on September 20. Larry's topic was "Planetary Atmospheres."

Herm Gloria (Equal Opportunity Programs Office) participated in Career Orientation Week for the Humanities Department of San Jose State University. He talked on "Engineering Opportunities and Career Potential," on August 21.

Walter Reinhardt (Computation Fluid Dynamics Branch) will be the guest speaker for the Precision Measurement Society's meeting in Los Altos on October 1. His address is entitled "A New Perspective of Spaceship Earth," and will include discussion of the Earth Resources Technology Satellite programs.